



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,290	06/07/2001	Yoshiyuki Yanagisawa	09792909-5046	9540
33448	7590	04/12/2006	EXAMINER	
ROBERT J. DEPKE LEWIS T. STEADMAN TREXLER, BUSHNELL, GLANGLORGI, BLACKSTONE & MARR 105 WEST ADAMS STREET, SUITE 3600 CHICAGO, IL 60603-6299				GRAYBILL, DAVID E
ART UNIT		PAPER NUMBER		
		2822		
DATE MAILED: 04/12/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/876,290	YANAGISAWA ET AL.
	Examiner	Art Unit
	David E. Graybill	2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 January 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) 3-6, 12, 13 and 15 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1, 2, 7, 11, 14 and 16-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 August 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

Art Unit: 2822

Applicant's election with traverse of the species of Figure 4, drawn to claims 1, 2, 7, 11, 14 and 16-21 in the reply filed on 1-31-6 is acknowledged. The traversal is on the ground(s) that "at least claim 1 remains generic and remains patentably distinct over the prior art of record and accordingly Applicants are entitled to consideration of claims related to additional species." This is not found persuasive because the reasons for insisting on restriction as stated in MPEP 808 have been clearly met.

The requirement is still deemed proper and is therefore made FINAL.

The following is a quotation of 37 CFR 1.84 Standards for drawings:

... h) Views . The drawing must contain as many views as necessary to show the invention. The views may be plan, elevation, section, or perspective views. Detail views of portions of elements, on a larger scale if necessary, may also be used. All views of the drawing must be grouped together and arranged on the sheet(s) without wasting space, preferably in an upright position, clearly separated from one another, and must not be included in the sheets containing the specifications, claims, or abstract. Views must not be connected by projection lines and must not contain center lines. Waveforms of electrical signals may be connected by dashed lines to show the relative timing of the waveforms.

(1) Exploded views . Exploded views, with the separated parts embraced by a bracket, to show the relationship or order of assembly of various parts are permissible. When an exploded view is shown in a figure which is on the same sheet as another figure, the exploded view should be placed in brackets. . . .

(p) Numbers, letters, and reference characters.

(1) Reference characters (numerals are preferred), sheet numbers, and view numbers must be plain and legible, and must not be used in association with brackets or inverted commas, or enclosed within outlines, e.g., encircled. They must be oriented in the same direction as the view so as to avoid having to rotate the sheet. Reference characters should be arranged to follow the profile of the object depicted.

(2) The English alphabet must be used for letters, except where another alphabet is customarily used, such as the Greek alphabet to indicate angles, wavelengths, and mathematical formulas.

Art Unit: 2822

(3) Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension. Therefore, they should not cross or mingle with the lines. They should not be placed upon hatched or shaded surfaces. When necessary, such as indicating a surface or cross section, a reference character may be underlined and a blank space may be left in the hatching or shading where the character occurs so that it appears distinct.

(4) The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts.

(5) Reference characters not mentioned in the description shall not appear in the drawings. Reference characters mentioned in the description must appear in the drawings.

(q) Lead lines . Lead lines are those lines between the reference characters and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference character and extend to the feature indicated. Lead lines must not cross each other. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake. Lead lines must be executed in the same way as lines in the drawing. See paragraph (l) of this section.

(r) Arrows . Arrows may be used at the ends of lines, provided that their meaning is clear, as follows:

(1) On a lead line, a freestanding arrow to indicate the entire section towards which it points;

(2) On a lead line, an arrow touching a line to indicate the surface shown by the line looking along the direction of the arrow; or

(3) To show the direction of movement.

The drawings are objected to as failing to comply with 37 CFR

1.84(p)(1) because reference characters 4 and 16 are used in association with brackets.

The drawings are objected to as failing to comply with 37 CFR 1.84(q) because reference characters 4, 16 and 40 do not have required lead lines.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore,

Art Unit: 2822

the following claimed features must be shown or the features canceled from the claims. No new matter should be entered.

Claims 1 and 11, a mother substrate on which a jig comprising a height restriction mechanism will be mounted.

Claim 7 and 18, a mother substrate on which a jig comprising a cover member is mounted.

Claim 14, two pairs of substantially parallel opposed side walls.

Claim 16 and 17, a mother substrate on which a jig comprising a height restriction mechanism is mounted.

Claim 19, wherein said device functions to limit a deformation of the semiconductor modules during a subsequent manufacturing process.

Claim 20, wherein said device functions to maintain a specified height of the plurality of stacked semiconductor modules during a subsequent manufacturing process.

Claims 19-21, a subsequent manufacturing process.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Art Unit: 2822

Information on current drawing correction practice is available at
<http://www.uspto.gov/web/offices/pac/dapp/ola/preognotice/moreinfoamdtprac.htm>

The objection to the drawings will not be held in abeyance.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claim 2 terminology "a box-shaped member which is positioned on said base member." To further clarify, the specification provides antecedent basis only for subject matter comprising a box-shaped member comprising said base member.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 7, 11, 14 and 16-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

Art Unit: 2822

relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The undescribed subject matter is a mother substrate on which the jig comprising a height restriction mechanism will be mounted; a mother substrate on which a jig comprising a cover member is mounted; two pairs of substantially parallel opposed side walls; a mother substrate on which a jig comprising a height restriction mechanism is mounted; and said device.

Claims 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 19 and 20, the undescribed subject matter is the entirety of the claims, in particular, the limitation, "said device" having the claimed functions.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2822

The following is a quotation of MPEP 2111.01 [R-3] Plain Meaning:

I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS THEY ARE DEFINED IN THE SPECIFICATION

While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, **>367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004)< (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (discussed below); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004) (Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400°F to 850°F" required heating the dough, rather than the air inside an oven, to the specified temperature.). One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., *Liebel-Flarsheim Co. v. Medrad Inc.*, 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004) (discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). See also *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004) ("Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment."); *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) ("Interpretation of descriptive statements in a patent's written description is a difficult task, as an inherent tension exists as to whether a statement is a clear lexicographic definition or a description of a preferred embodiment. The problem is to interpret claims in view of the specification without unnecessarily importing limitations from the specification into the claims."); *Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371, 65 USPQ2d 1865, 1869-70 (Fed. Cir. 2003) (Although the specification discussed only a single embodiment, the court held that it was improper to read a specific order of steps into method claims where, as a matter of logic or grammar, the language of the method claims did not impose a specific order on the performance of the method steps, and the specification did not directly or

Art Unit: 2822

implicitly require a particular order). See also paragraph III., below. There is one exception, and that is when an element is claimed using language falling under the scope of 35 U.S.C. 112, 6th paragraph (often broadly referred to as means or step plus function language). In that case, the specification must be consulted to determine the structure, material, or acts corresponding to the function recited in the claim. *In re Donaldson*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994) (see MPEP § 2181- § 2186). In *In re Zletz*, *supra*, the examiner and the Board had interpreted claims reading "normally solid polypropylene" and "normally solid polypropylene having a crystalline polypropylene content" as being limited to "normally solid linear high homopolymers of propylene which have a crystalline polypropylene content." The court ruled that limitations, not present in the claims, were improperly imported from the specification. See also *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) ("Claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their broadest reasonable interpretation'." 710 F.2d at 802, 218 USPQ at 292 (quoting *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976)) (emphasis in original). The court looked to the specification to construe "essentially free of alkali metal" as including unavoidable levels of impurities but no more.). Compare *In re Weiss*, 989 F.2d 1202, 26 USPQ2d 1885 (Fed. Cir. 1993) (unpublished decision - cannot be cited as precedent) (The claim related to an athletic shoe with cleats that "break away at a preselected level of force" and thus prevent injury to the wearer. The examiner rejected the claims over prior art teaching athletic shoes with cleats not intended to break off and rationalized that the cleats would break away given a high enough force. The court reversed the rejection stating that when interpreting a claim term which is ambiguous, such as "a preselected level of force", we must look to the specification for the meaning ascribed to that term by the inventor." The specification had defined "preselected level of force" as that level of force at which the breaking away will prevent injury to the wearer during athletic exertion. It should be noted that the limitation was part of a means plus function element.)

In claim 2 the scope of the language "box-shaped" is unclear because the language is not clearly defined in the disclosure, and it otherwise has no plain meaning. In particular, the scope of the term "box-shaped" cannot be determined because a box does not necessarily have a particular defined shape.

In claim 18 there is insufficient antecedent basis for the language "the mother substrate."

Art Unit: 2822

In claims 19 and 20, the antecedent basis for the language, "the device" is "the multilayer semiconductor device," and the means by which the multilayer semiconductor device performs the claimed functions is unclear.

Claims 1, 2, 7, 11, 14 and 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are those between the following:

Claim 1, the position restriction mechanism, height restriction mechanism and alignment mechanism;

Claim 2, (a) the height restriction mechanism, alignment mechanism and box-shaped member, (b) the height restriction mechanism, alignment mechanism and base member, (c) the height restriction mechanism, alignment mechanism and storage space, and (d) the height restriction mechanism, alignment mechanism and inner wall;

Claim 7, (a) the position restriction mechanism, height restriction mechanism and alignment mechanism, (b) the position restriction mechanism, alignment mechanism and cover member, and (c) the position restriction mechanism, alignment mechanism and modules;

Art Unit: 2822

Claim 11, (a) the position restriction mechanism and alignment mechanism, and (b) the height restriction mechanism and alignment mechanism;

Claims 19 and 20, (a) said device, position restriction mechanism, height restriction mechanism and alignment mechanism, (b) the modules, position restriction mechanism, height restriction mechanism and alignment mechanism, and (c) said device, modules, position restriction mechanism, height restriction mechanism and alignment mechanism.

In the rejections infra, generally, reference labels are recited only for the first recitation of identical claim elements.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, 14, 16 and 18-21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Carlson (4953005).

At column 11, lines 27-46; column 27, lines 25-32; and column 33, line 52 to column 34, line 16, Carlson discloses the following:

Art Unit: 2822

A multilayer semiconductor device assembly jig, comprising: an inherent lateral position restriction mechanism 773 for positioning and aligning a plurality of stacked semiconductor modules 702 on a base member 774 with their respective lateral positions mutually restricted; an inherent height restriction mechanism 773 for restricting an entire height of said semiconductor modules layered on said base member; a mother substrate alignment mechanism 790 for providing alignment with reference to a mother substrate 778 on which the jig will be mounted; and further wherein each of the plurality of semiconductor modules is comprised of one or more semiconductor chips 100 secured to a printed wiring board 140 that has electrical connections 712 on a top and bottom surface thereof and wherein adjacent semiconductor modules are secured to one another by connections between respective top and bottom surfaces thereof; a box-shaped member 772 which is positioned on said base member and having a storage space for storing said semiconductor modules in a layered state, wherein an inner wall of said storage space constitutes said lateral position restriction mechanism; wherein said device inherently functions to limit a deformation of the semiconductor modules during a subsequent manufacturing process "the housing base 774 is positioned against a circuit board assembly 778"; wherein said device inherently functions to maintain a

Art Unit: 2822

specified height of the plurality of stacked semiconductor modules during a subsequent manufacturing process "the housing base 774 is positioned against a circuit board-assembly 778."

An assembly jig for a semiconductor module comprising: two pairs of substantially parallel opposed side walls; a cover member located over the side walls; a plurality of semiconductor modules stacked and surrounded by the side walls such that the modules are aligned and their lateral motion (at least beyond the sidewalls) is inherently prevented by the side walls, wherein the semiconductor modules are comprised of at least one chip and one wiring board; and further wherein the cover member is positioned such that it inherently prevents vertical displacement (at least beyond the cover) of an uppermost semiconductor module; wherein the jig is mounted on the mother substrate, a bottom-most one of the stacked semiconductor modules is caused to come into electrical contact with the mother substrate, wherein said cover member functions to maintain a specified height of the plurality of stacked semiconductor modules during a subsequent manufacturing process.

Although Carlson does not appear to explicitly disclose solder connections, the language, "for positioning and aligning a plurality of stacked semiconductor modules on a base member with their respective lateral positions mutually restricted," "for restricting an entire height of said

Art Unit: 2822

semiconductor modules layered on said base member," "for providing alignment with reference to a mother substrate on which the jig will be mounted," and, "for storing said semiconductor modules in a layered state," are statements of intended use of the jig that do not appear to result in a structural difference between the claimed jig and the jig of Carlson. Further, because the jig of Carlson appears to have the same structure as the claimed jig, it appears to be inherently capable of being used for the intended uses, and the statements of intended use do not patentably distinguish the claimed jig from the jig of Carlson. To further clarify, because the scope of the claims is not limited to semiconductor modules structure, the scope of the claims is not limited to wherein adjacent semiconductor modules are secured to one another by solder connections between respective top and bottom surfaces thereof. The manner in which a product operates is not germane to the issue of patentability of the product; Ex parte Wikdahl 10 USPQ 2d 1546, 1548 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); In re Finsterwalder 168 USPQ 530 (CCPA 1971); In re Casey 152 USPQ 235, 238 (CCPA 1967). Also, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."; Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). And,

Art Unit: 2822

"Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."; *In re Young*, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Also, in the event that the limitations, "wherein said device functions to limit a deformation of the semiconductor modules during a subsequent manufacturing process;" "wherein said device functions to maintain a specified height of the plurality of stacked semiconductor modules during a subsequent manufacturing process," and, "wherein said cover member functions to maintain a specified height of the plurality of stacked semiconductor modules during a subsequent manufacturing process" are construed as statements of intended use of "said device," it is noted that these statements of intended use do not appear to result in a structural difference between the claimed device and the device of Carlson. Further, because the device of Carlson appears to have the same structure as the claimed device, it appears to be inherently capable of being used for the

Art Unit: 2822

intended uses, and the statements of intended use do not patentably distinguish the claimed device from the device of Carlson.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson as applied to claim 1, and further in combination with Yanagida (6504241).

Art Unit: 2822

As cited *supra*, Carlson discloses wherein said height restriction mechanism further comprises: a cover member secured over the semiconductor modules; wherein the jig is mounted on the mother substrate, a bottom-most one of the stacked semiconductor modules is caused to come into electrical contact with the mother substrate.

However, Carlson does not appear to explicitly disclose wherein adjacent semiconductor modules are secured to one another by solder connections between respective top and bottom surfaces thereof.

Nonetheless, at column 8, line 55 to column 9, line 17, Yanagida discloses wherein adjacent semiconductor modules 30 are secured to one another by solder connections 34 between respective top and bottom surfaces thereof. Furthermore, it would have been obvious to combine this disclosure of Yanagida with the disclosure of Carlson because it would reduce inductance of the jig.

Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (4953005) and Yanigada (6504241).

As cited *supra*, Carlson discloses a multilayer semiconductor device assembly jig, comprising: a lateral position restriction mechanism for positioning and aligning a plurality of stacked semiconductor modules on a base member with their respective lateral positions mutually restricted, the

Art Unit: 2822

lateral position restriction mechanism comprised of two opposed side walls having a single stack of the semiconductor modules therebetween; a height restriction mechanism for restricting an entire height of said semiconductor modules layered on said base member, said height restriction mechanism being located directly above the stacked semiconductor modules; a mother substrate alignment mechanism for providing alignment with reference to a mother substrate on which the jig will be mounted; and further wherein each of the plurality of semiconductor modules is comprised of one or more semiconductor chips secured to a printed wiring board that has electrical connections on a top and bottom surface thereof and wherein adjacent semiconductor modules are secured to one another by connections between respective top and bottom surfaces thereof; wherein when the jig is mounted on the mother substrate, a bottom-most one of the stacked semiconductor modules is caused to come into electrical contact with the mother substrate.

However, Carlson does not appear to explicitly disclose wherein adjacent semiconductor modules are secured to one another by solder connections between respective top and bottom surfaces thereof.

Nonetheless, at column 8, line 55 to column 9, line 17, Yanagida discloses wherein adjacent semiconductor modules 30 are secured to one

Art Unit: 2822

another by solder connections 34 between respective top and bottom surfaces thereof. Furthermore, it would have been obvious to combine this disclosure of Yanagida with the disclosure of Carlson because it would reduce inductance of the jig.

Applicant's amendment and remarks filed 8-23-5 have been fully considered, are addressed by the rejections supra, and are further addressed infra.

Applicant states, "In regard to the Examiners [sic] objections to the drawings under 37 CFR 1.84(p), Applicants submit that 1.84(p) is directed to the use of brackets (plural) to surround a reference character, which is normally used to signify the removal or cancellation of an object or text."

This statement is respectfully deemed unpersuasive because it is conclusory and not probative.

Relatedly, applicant asserts, "Applicant's use of a bracket (singular) is in order to illustrate 'the relationship or order of assembly of various parts,' which is the policy illustrated, for example, in 37 CFR 1.84(h)(1). Accordingly, Applicants submit that their figures are in full compliance with 37 CFR 1.84."

This assertion is respectfully traversed because 37 CFR 1.84(h)(1) is directed to exploded views, and reference characters 4 and 6 do not refer to

Art Unit: 2822

exploded views. Indeed, the 37 CFR 1.84(q) requirement, "Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed" precludes the use of brackets in association with reference characters 4 and 6.

Also, applicant contends that the term "box-shaped," is well known.

This contention is respectfully deemed unpersuasive because the claims are not rejected because the terms are not well known, instead, the claims are rejected because the scope of the term "box-shaped" is unclear because the term has no plain meaning, and it is not otherwise clearly defined in the disclosure.

Relatedly, applicant attempts to limit the scope of the term box-shaped to the following dictionary definitions of the word *box*: "A container typically constructed with four sides perpendicular to the base and often having a lid or cover," and "A square or rectangle."

This attempt is respectfully deemed unpersuasive because the rejection of the claims is not directed to the word *box*. To this end, in order to continue to afford applicant the benefit of compact prosecution, it is respectfully suggested that a dictionary definition of the term "box-shaped" would be more relevant to the rejection of the claims. In any case, the scope of the definition, "A container typically constructed with four sides

Art Unit: 2822

perpendicular to the base and often having a lid or cover," does not limit the term to a container constructed with four sides, merely a container typically constructed with four sides. Indeed, applicant submits 25 disparate definitions of the word *box*, the collective scope of which encompasses infinite shapes. For example, a hat box, a music box, a snuff box, a candy box and a jewelry box are often round, as circular or heart-shaped, or otherwise non-four sided.

Relatedly, applicant alleges that the term "box-shaped" is "clearly described in the specification."

This allegation is respectfully deemed unpersuasive because, as elucidated *supra*, "It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language," and the specification provides no definition for the term "box-shaped."

Further, applicant cites "the 2nd full paragraph on page 15 of Applicant's disclosure, and Figures 2(d) and 3" as evidence that "box-shaped requires a structure having four sides and a base, wherein the four sides making up the body 15 are positioned perpendicular to the base 14, as shown in the respective figures."

Art Unit: 2822

This evidence is respectfully deemed unpersuasive because there is no such disclosure as cited. In fact, Figures 2(d) and 3 disclose only a three-sided box-shaped structure 16.

Also, applicant, "request reconsideration of Examiner's rejection of claims 1 - 7 and 11 - 13 under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements," "Applicants submit that claims 1 - 7 and 11 - 13 are supported by the specification, and respectfully request Examiner withdraw the rejection under 35 U.S.C. §112.

This request is respectfully denied because, as cited *supra*, MPEP 2111.01 instructs, "While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. . . . One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification." Therefore, the specification cannot be relied on to supply the omitted essential structural cooperative relationships of the rejected claims.

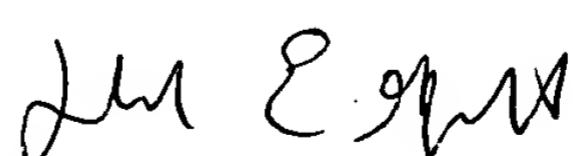
Art Unit: 2822

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions relevant to the examination of the instant invention.

For information on the status of this application applicant should check PAIR:
Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.
The fax phone number for group 2800 is (571) 273-8300.



David E. Graybill
Primary Examiner
Art Unit 2822

Art Unit: 2822

D.G.

7-Apr-06